CLAIMS

1. A recording method comprising:

a first process for recording audio data consecutively in a first recording area of a recording medium; and

a second process for recording audio data, which have a file format having the same file contents as audio data recorded in said first recording area, in a second recording area of said recording medium.

2. A recording method as set forth in claim 1, wherein said recording method records an identifier for indicating that audio data recorded in said first recording area of said recording medium and audio data recorded in a file format in said recording area are recorded.

3. A recording method as set forth in claim 1, wherein said recording method further records first information being indicated in a recording format of audio data recorded in said first recording area and second information being indicated in a recording format of audio data recorded in said second recording area.

4. A recording method as set forth in claim 3, wherein said recording method further records said identifier information and information for identifying positions of said first recording area and said second recording area in said recording medium.

5. A recording method as set forth in claim 1, wherein said first process performs an error correcting process to audio data

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recorded in said first recording area and then records in said first recording area by performing a modulating process and said second process generates data having sector structure based on audio data being recorded in said second recording area, performs said error correcting process to generated data, and further records data in said second recording area by performing said modulating process.

6. A recording method as set forth in claim 1, wherein said recording method switches between a linear speed in said first process and a linear speed in said second process.

7. A recording method as set forth in claim 6, wherein said recording method controls a process of driving said recording medium in order for a linear speed at the time of recording said second recording area of said recording medium to become faster than a linear speed at the time of recording said first recording area of said recording medium.

8. A recording method as set forth in claim 7, wherein said recording method records in a read-in area of said recording medium information on audio data being recorded in said first area as information on a table of contents after said first process terminates and then said second process is performed by switching the linear speed of said first recording area over to the linear speed of said second recording area of said recording medium.

9. A recording method as set forth in claim 8, wherein said recording method records in said read-in area of said recording medium information on audio data having a file format being recorded in said second area as information on a table of contents after said second process terminates.

10. A recording method as set forth in claim 1, wherein said recording method records data in said second area at higher density than recording density of data being recorded in said first recording area.

11. A recording medium comprising:
a first recording area for recording consecutive audio data; and
a second recording area for recording audio data having a file format having the same contents as audio data being recorded in said first recording area.

12. A recording medium as set forth in claim 1, wherein any one recording area of said first recording area and said second recording area locates on the inner periphery side of another recording area.

13. A recording medium as set forth in claim 12, wherein said recording medium provides a first read-in area on the inner periphery side of any one recording area of said first recording area and said second recording area, provides a first readout area successive to said one recording area, provides a second read-in area on the outer periphery side of said first readout area, provides another recording area on the outer periphery side of said second read-in area, and provides a second readout area in an outer periphery of said another recording area.

14. A recording medium as set forth in claim 11, wherein data are recorded in said second recording area at higher density than recording density of data being recorded in said first recording area.

15. A recording medium as set forth in claim 11, wherein said

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recording medium further includes a read-in area and records information, which relates to audio data being recorded at least in said first area, as information on a table of contents in said read-in area.

16. A recording medium as set forth in claim 15, wherein an identifier, which indicates that data as audio data being recorded in said first recording area and audio data having a file format in said second recording format are recorded in said recording area, is recorded in said read-in area

17. A recording medium as set forth in claim 15, wherein first information for indicating a recording format of audio data being recorded in said first recording area and second information for indicating a recording format of audio data being recorded in said second recording area are further recorded in said read-in area.

18. A recording medium as set forth in claim 17, wherein information for identifying positions of said first recording area and said second recording area are further recorded in said read-in area together with said identification data.

19. A recording medium as set forth in claim 11, wherein the said recording medium has different linear speeds when said first recording area and said second recording area perform recording.

20. A recording medium as set forth in claim 11, wherein an identifier indicating that two kinds of data such as audio data recorded in said first recording area and audio data having a file format as recorded in said second recording area are recorded is further recorded in said recording medium.

21. A recording method comprising the steps of:

reading information on a table of contents from a recording medium;

identifying whether or not said recording medium is a recording medium in which two kinds of audio data as audio data to be recorded in first recording area and audio data to be recorded in second recording area having a file format can be recorded based on readout information on said table of contents;

identifying whether or not said recording medium is a medium in which when it is identified that said two kinds of audio data can be recorded in said recording medium; and

notifying whether or not said recording medium should be defined as a recording medium for recording said two kinds of audio data when said recording medium is a medium in which no recording has yet been performed.

22. A recording method as set forth in claim 21, wherein said recording method records an identifier for indicating that two kinds of audio data as audio data recorded in said first recording area and audio data having a file format as recorded in said second recording area are recorded in said recording medium when it is decided that said recording medium is a recording medium for recording said two kinds of audio data.

23. A recording method as set forth in claim 21, wherein said recording method starts a process of recording when recording start and recording format are designated after it is decided that said recording medium records said two kinds of audio data.

24. A recording method as set forth in claim 23, wherein said method notifies that it is needed to designate said recording format

when a process of said recording start is exclusively designated.

25. A recording method as set forth in claim 23, wherein said method selects said first recording area and said second recording area of said recording medium based on said designated recording format, and audio data are recorded in said designated format on a selected recording area.

26. A recording method as set forth in claim 22, wherein said method performs a process of recording based on a recording format designated by said readout information on a table of contents when it is identified that said recording medium is not a recording medium on which recording has been performed.

27. A recording method as set forth in claim 26, wherein said method gives a warning when a recording format different from the recording format designated by said readout information on table of contents is designated.

28. A recording method as set forth in claim 21, wherein said method starts a process of recording when a recording start and a recording format are designated when it is decided that a recording medium is defined not to record said two kinds of audio data.

29. A recording method as set forth in claim 28, wherein said method notifies that said recording format is required when a process of said recording start is exclusively designated.

30. A recording apparatus comprising:

a recording head for recording in a recording medium having a first recording area in which audio data are recorded in a consecutive way and a second recording area in which audio data having a file format are recorded;

a data generating unit for generating data having a file format based on input audio data;

an encoder for applying error correcting processes to said input audio data or data being output from said data generating unit;

a modulation process unit for performing modulating processes to output data from said encoder and for providing recording data to said recording head; and

a selecting unit for deciding whether said input audio data are supplied to said encoder or to said data generating unit based on a designated recording format.

31. A recording apparatus as set forth in claim 30, wherein said apparatus further includes a rotation driving unit for rotating and driving said recording medium and a control unit for controlling operations of said rotation driving unit and switching operations of said selecting unit; and said control unit controls said rotation driving unit so that linear speeds can be switched between when recording is performed in said first area by said recording head and when recording is performed in said second area by said recording head.

32. A recording apparatus as set forth in claim 31, wherein said control unit controls said rotation driving unit so that a linear speed when said second recording area performs recording is faster than a linear speed when said first recording area of said recording medium performs recording.

33. A recording apparatus as set forth in claim 30, wherein said control unit moves said recording head to a position corresponding to said second area when data output from said encoder are recorded

and said recording head is moved to said first recording area when said input audio data are consecutively recorded in said recording medium.

34. A reproducing method comprising the steps of:

reading out information on a table of contents from a recording medium;

identifying whether or not said recording medium is a recording medium in which two kinds of audio data, or audio data recorded in said first recording area and audio data having a file format as recorded in a second recording area, are recorded based on said readout information on table of contents; and

starting a process of reproducing said recording medium when an instruction of a reproducing start and a selecting instruction of a recording format are supplied when it is identified that said recording medium is a recording medium in which said two kinds of audio data are recorded.

35. A reproducing method as set forth in claim 34, wherein said method performs a process of reproducing by reading out data from said second recording area or said first recording area in which data corresponding to a recording format being selected by said selecting instruction are recorded.

36. A reproducing method as set forth in claim 34, wherein said method identifies a recording format of data being recorded in said recording medium based on said readout information on the table of contents when it is identified that said recording medium is a recording medium in which said two kinds of audio data are recorded.

37. A reproducing method as set forth in claim 36, wherein said

method performs processes of a readout reproduced signal from said identified recording medium based on said recording format.

38. A reproducing method as set forth in claim 34, wherein said method controls a process of driving said recording medium so that a linear speed of said recording medium when reproduction is performed from said second recording area is faster than a linear speed when reproduction is performed from said first recording area.

39. A reproducing method as set forth in claim 34, wherein said method identifies a recording format of data being recorded in said recording medium based on said readout information on the table of contents when it is identified that said recording medium is not a medium in which said two kinds of audio data are recorded and then switches processes of a reproduced signal readout from said recording medium based on an identified recording format.

40. A reproducing method comprising the steps of:

reading out information on a table of contents from a recording medium;

identifying whether or not said recording medium is a recording medium in which two kinds of audio data, as audio data to be recorded in a first recording area and audio data having a file format to be recorded in a second recording area, are recorded based on said readout information on the table of contents; and

starting a reproduction process when an instruction, which selects a reproducing start and a track position, is supplied when it is identified that said recording medium is a recording medium in which said two kinds of audio data are recorded.

41. A reproducing method as set forth in claim 40, wherein said

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method identifies whether a track being selected by an instruction of selecting said track position is positioned in said first recording area or in said second recording area.

42. A reproducing method as set forth in claim 41, wherein said method switches reproducing signal processes based on results from identifying whether said track being selected is positioned in said first recording area or said second recording area.

43. A reproducing method as set forth in claim 34, wherein said method controls a process of driving said recording medium so that a linear speed of said recording medium when reproduction is performed from said second recording area is faster than a linear speed when reproduction is performed from said first recording area.

44. A reproducing method as set forth in claim 40, wherein said method identifies a recording format of data being recorded in said recording medium based on said readout information on the table of contents when it is identified that said recording medium is not a medium in which said two kinds of audio data are recorded and then switches processes of a reproduced signal readout from said recording medium based on an identified recording format.

45. A reproducing apparatus comprising:

a reproducing head for reading out data from a recording medium;

a demodulating unit for performing a demodulating process to data readout from said recording medium by said recording head;

a decoder for performing a decoding process, corresponding to an error correction process, to data output from said demodulating procedure;

a converting unit for converting data having said file format to

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audio data when data output from said decoder are data having a file. format; and

a selecting unit for deciding whether or not data output from said decoder are supplied to said conversion unit based on information on a table of contents readout from said recording medium.

46. A recording apparatus as set forth in claim 45, wherein said apparatus further includes:

a rotation driving unit for rotating and driving said recording medium;

a control unit for controlling operations of said rotation driving unit and switching operations of said selecting unit;

wherein said control unit identifies whether or not said recording medium is a recording medium in which audio data recorded in a first recording area and audio data having a file format as recorded in a second recording area are recorded based on readout TOC information and then, if it is identified that said recording medium is a recording medium in which said two kinds of audio data have been recorded, said control unit controls said rotation driving unit so that a line speed at the time of reproduction from said first recording area by said reproducing head and a line speed at the time of reproduction from said second recording area by said reproducing head may be switched.

47. A recording apparatus as set forth in claim 46, wherein said control unit controls said rotation driving unit so that a linear speed when said second recording area performs recording is faster than a linear speed when said first recording area of said

recording medium performs recording.

48. A recording method comprising the steps of:

reading out information on a table of contents from a recording medium;

identifying whether or not said recording medium is a recording medium which has a first recording area of recording data having a first recording density and a second recording area of recording data having a second recording density higher than said first recording density based on said readout information on the table of contents being; and

recording audio data consecutively in said first recording area and further audio data having a file format are recorded in said second recording area, if it is identified that said recording medium is a recording medium having said first and second recording areas.

49. A reproducing method comprising the steps of:

reading out information for a table of contents from a recording medium;

identifying whether or not said recording medium is a recording medium which has a first recording area of recording data having a first recording density and has a second recording area of recording data having a second recording density higher than said first recording density based on said information of said table of contents being readout; and

starting reproduction from said recording area when an instruction of a reproducing start and of selecting a recording format is supplied, if it is identified that said recording medium

is a recording medium having said first and second recording areas.

50. A reproducing method as set forth in claim 49, wherein said method readouts data from any one of said first recording area and said second area corresponding to said recording density if an instruction of selecting said recording format is an instruction of selecting recording density.

51. A reproducing method as set forth in claim 49, wherein said method identifies which of said first recording area and said second recording area a recording area selected by an instruction of selecting said track position is located in if an instruction of selecting said recording format is an instruction of selecting a track position.

52. A reproducing method as set forth in claim 51, wherein said method switches processes of a reproduced signal based on a result from identifying a recording position of said track which has been selected from said first recording area and a second recording area.

53. A reproducing method as set forth in claim 49, wherein said method, if it is identified that said recording medium is not a recording medium having said first and second recording areas, identifies the recording density of said recording medium based on said information on the table of contents and switches processes of a reproduced signal readout from said recording medium based on the identified recording density.